TECHNOLOGY AND JUSTICE: HOW DIGITAL TOOLS AND PLATFORMS CAN ENHANCE OR HINDER ACCESS TO JUSTICE

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ABSTRACT

The internet has amplified the power and scope of the justice system, consolidating its centrality in society like never before, establishing new pathways for access to justice, and posing new difficulties. Electronic filing, dispute resolution, and chatbots for legal help have accelerated and made access to the law faster and easier for people who never had access to the law before. But these technologies at the same time can be instruments of inequality in the society – especially amongst those who are not digitally literate or don't have reliable internet access or social media presence – and also to those who encounter institutional impediments to justice. Also, data privacy, algorithmic discrimination, and cybersecurity issues are all the instances which can be considered as the challenges of enacting digital technologies like a magic wand. The authors of this project is aiming to write about how digital technologies can speed up and make it easier to seek justice and defeat the evils — the digital divide and the moral difficulties of algorithmic decision-making. This project also seeks to look at the cases in which digital justice tools were used – and failed. It also offers recommendations for how they could be used better. In such a way that the access to tech-based justice is not justice is not just limited to the privileged. Finally, the article ends with suggestions on using digital innovation to ensure global justice, equity, access, and confidence.

INTRODUCTION

The Indian judicial system has recently gone through a significant shift in the digital world. All around the world, the justice systems and the courts are increasingly accepting and embracing technology to simplify processes, enhance transparency, and become more and more inclusive. Technological developments and innovations such as e-courts, AI-driven trial systems and electronic dispute resolution platforms for transforming the legal structure. The innovations present a promising opportunity which can make justice more accessible by breaking down distance, cost and the barriers of time.

For instance, e-filing applications allow litigants to submit and receive documents from anywhere, while AI-powered legal assistants offer affordable and immediate services to those in need. Despite these promising developments, integrating technology into the justice system is not without its challenges. Issues like the digital divide, algorithmic bias, cyber threats, and over-reliance on technology can complicate access to justice. Unfortunately, those without reliable internet access or the necessary technical skills may find themselves left behind, often impacting the most vulnerable members of our society.

Moreover, when algorithms are put in charge of decision-making, we risk unintentionally reinforcing ingrained biases, which can erode public trust in online justice. Ensuring the privacy and security of legal data is also paramount in this digital age.

This dual nature of technology highlights the necessity for a balanced perspective as we move forward. Collaboration among policymakers, lawyers, and technologists is crucial to tackling these challenges with digital tools. This article explores how technology can improve access to justice, its obstacles, and valuable lessons from case studies. It wraps up with recommendations for applying digital technologies ethically and fairly in the legal field, ultimately aiming to create a more just society for everyone.

EVOLUTION OF TECHNOLOGY IN LEGAL SYSTEMS.

Indian judicial system and the inclusion of technology is a long and eventful journey of slow adjustment marked by important turning points. Owing to India's colonial past the Indian judiciary has in past been slow and hesitant to adapt to the new technological innovations and rather relied on the manual procedures for pre- and post- independence communication and

document preservation and for keeping the records. But now in the new digital innovation has proved to be essential to increase transparency solve for the inefficiencies and improve access to justice.

After 1947, the judiciary continued to rely on manual processes, storing records in physical registers and communicating through postal networks. Delays and inefficiencies resulted from the physical storage of case files, often in disorganized archives. The growing backlog of cases remained largely unaffected by the introduction of typewriters and basic office supplies.

Computerization began in the 1980s, with the National Informatics Centre (NIC) implementing basic electronic systems in a few courts. Although implementation was uneven, case tracking and cause list automation advanced in the 1990s. [1]The introduction of the electronic courts Mission Mode Project in 2007, as part of the National e- Government Plan (NeGP), was revolutionary.2015, over 14,000 courts had gone digital. Phase II added e-filing, video conferencing, and the National judicial Data Grid (NJDG) to track case pendency and disposal rates.

Globally, the judiciary sector has experienced tremendous technological advancements. Programs like PACER (Public Access to Court Electronic Records) in the US offer real-time access to court information, increasing transparency. Online dispute resolution (ODR) platforms like Modria and eBay Resolution Centre have transformed how disputes are resolved, particularly for more minor claims. In Europe, artificial intelligence (AI) techniques assist with predictive analytics, contract analysis, and legal research. Video conferencing and virtual courts have become commonplace in many countries post-pandemic, while blockchain technology is being explored globally for secure record-keeping and tamper-proof evidence management. These developments reflect a global trend toward a more efficient and accessible legal system.

CURRENT LANDSCAPE IN INDIA

Aligning with the United Nations' Sustainable Development Goals (Peace, Justice, and Strong Institutions), India is leveraging technology to bridge gaps in the judicial process, promote

[1] Press Information Bureau, Government of India, Ministry of Law and Justice https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1848737#:~:text=As%20part%20of%20the%20National,Technology%20in%20the%20Indian%20Judiciary%E2%80%9D (last visited 24 Dec 2024)

equal access to justice, as well as foster public trust in the legal system. This digital transformation is primarily governed by the Information Technology Act 2000, which is essential for providing the legal framework for e-governance, cybersecurity, and data protection. In the following sections, we will explore the technological tools available in India's justice system and compare them with innovations implemented worldwide.

[2]The e-Courts Project, a collaborative initiative between the Department of Justice, the e-Committee of the Supreme Court of India, aims to enhance the efficiency and speed of judicial processes across over 21,000 district and subordinate courts. Launched in phases, it started with the computerization of 14,249 courts under Phase I in 2010. It continued with Phase II in 2015, focusing on improving infrastructure, technology-enabled judicial processes, and digital court services. The Project includes e-filing, case tracking, and enhanced accessibility via websites, apps, SMS, and kiosks, alongside capacity building for legal service authorities and judicial officers. It has successfully equipped over 13,400 courts with advanced ICT infrastructure, reducing case pendency and improving transparency in the judicial system.

[3]The Case Information System (CIS), developed by the e-Committee of the Supreme Court with National Informatics Centre Pune, aims to make the judiciary more transparent and litigant-friendly. Available for both District Judiciary and High Courts, CIS allows litigants to access case status, orders, hearing dates, and progress online from anywhere. The High Court of J&K has successfully implemented this system.

[4]The National Judicial Data Grid (NJDG) is an online database of case details, orders, and judgments from 18,735 District, Subordinate, and High Courts under the e-Courts Project. Updated in near real- time by District and Taluka courts, it provides access to over 28.17 crore orders and judgments as of December 2024. The Supreme Court of India also onboarded its data to NJDG on September 14, 2023. NJDG offers data for civil and criminal cases, enabling drill-down analysis by case age, State, and District. It serves as a monitoring tool to reduce case pendency, track land dispute cases through linked Land Records from 26 States, and improve court performance by identifying bottlenecks.

[2]2Id.
[3] Case Information System (CIS), E-Committee, Supreme Court of India, https://ecommitteesci.gov.in/division/case-information-system-cis/ (last visited 24 Dec 2024)
[4] The National Judicial Data Grid, https://doj.gov.in/the-national-judicial-data-grid-njdg/(last visited 24 Dec2024)

Praised by the World Bank in the 2018 Ease of Doing Business report, NJDG aids policy decisions and enhances resource management by generating case management reports and facilitating contract enforcement. The centers are intended to increase openness, decrease paperwork, and provide convenience. E-Seva Kendra is a digital service center aimed at providing government services online, particularly to underprivileged and rural communities. Its purpose is to enhance public access to government services and streamline administrative processes.

In India, virtual courts offer a means for cases to be adjudicated online, especially concerning traffic violations, thus enabling legal proceedings to unfold more efficiently. These courts handle thousands of daily instances in cities like Delhi, Pune, and Chennai. They simplify processes, including communication, sentencing etc.

The SCR, or Electronic-Solution for Redressal of Escalated Cases, is an online portal to strengthen citizens' hand in filing complaints over issues like judicial delay and limited access to court resources. This makes the complaint process more manageable, which further adds to the accountability of the judiciary. Issues like delayed justice and better public access to information are dealt with through Electronic Service Composition Repository thus making the judicial system more transparent and responsive.

[5]Online Dispute Resolution systems like Sama, Presolv360, WeVaad, AGAMI are examples of alternative modes of litigation other than the classical court-based model where consumer, commercial, and even family disputes get resolved on online platforms. They are helpful mainly for small claims or low-value disputes that become too expensive and time-consuming with the traditional trial process. The ODR platforms also offer mediation, arbitration, and negotiation, making resolutions faster and cheaper.

[6]SUPACE is an acronym for Supreme Court Portal for Assistance in Court Efficiency. It is an AI-driven platform that helps judges improve courts' efficiency. This is achieved by summarising case files, identifying relevant precedents, and managing caseloads. It has been piloted at the Supreme Court and will eventually be rolled out to other courts in India.

[5] Shreya Tandon, Top ODR Systems in India, iPleaders ,August 13, 2020, https://blog.ipleaders.in/top-online-dispute-resolution-odr-startups-india/

[6] Enhancing the efficiency of India's courts using AI, India AI, Jul 20, 2021, https://indiaai.gov.in/case-study/enhancing-the-efficiency-of-india-s-courts-using-ai

SUPACE improves decision-making with AI- assisted insights, thus reducing the time that a judge spends on routine administrative tasks.

In addition to SUPACE, other AI technologies are being used to analyse and predict case outcomes using the Artificial Intelligence and Legal Analytics platform by the National Judicial Data Grid (NJDG). The AI tools thus add value to better case management, increased transparency, and quicker resolution of cases across India.

[7]The Nyaya Bandhu (Pro Bono Legal Services) initiative, introduced by the Government of India, aims to establish a comprehensive and transparent system for providing free legal aid and services nationwide. Through this program, practicing lawyers willing to offer pro bono legal assistance are connected with verified, eligible marginalized individuals seeking such support. This connection is facilitated using tools like mobile technology to ensure efficient and no-cost delivery of legal services.

[8]The Tele-Law program, launched by the Government of India through the Ministry of Law and Justice, aims to bridge the gap in legal access for marginalized communities. By providing video conferencing- based legal services via Common Service Centres (CSCs), it offers pre-litigation advice on various legal issues, including family and consumer rights. Initially launched to cover 633 districts, the program was expanded in April 2023 to include 2,50,000 CSCs across 2,50,000 Gram Panchayats in 783 districts. By August 2023, it had successfully assisted 50 million beneficiaries. In 2024, the program introduced Tele-Facilitation Centers with a dedicated toll-free number (14454) and provided free doorstep legal assistance in 500 Aspirational Blocks, reaching 1 crore citizens with legal advice.

[9]Documents stored in DigiLocker are recognized as authentic and are widely accepted by government authorities and departments. Under the Information Technology Act, 2000, the documents in DigiLocker's issued section hold the same validity as original documents. By 2022, DigiLocker had about 101.29 million registered users and had issued nearly 4.94 billion

[7] The Nyaya Bandhu (Pro Bono Legal Services), https://www.probono-doj.in/about.html, (last visited 23 Dec 2024)
[8] Tele-Law Program: A Journey Towards Legal Empowerment, https://www.tele-law.in/historical-background-information.html#:~:text=By%20the%20year%202021%2C%20the,justice%20services%20among%20rural%20citizens., (last visited 25 Dec 2024)
[9] Radhika Joshi, DigiLocker: A Digital Wallet for Your Important Documents, DigiLocker Blog, 20 Sep 2022, https://blog.digilocker.gov.in/digilocker-a-digital-wallet-for-your-important-documents/

documents, reflecting its growing popularity for secure document storage and retrieval. This widespread adoption has significantly contributed to the success of the Digital India Initiative.

[10]SCC Online, a distinguished legal research database by Eastern Book Company, offers a vast collection of case laws, law reports, and commentaries in both print and electronic formats. Launched in 2009, it provides access to over 3.4 million documents from 20 countries, covering Indian case law from 1969 onwards, Privy Council cases (1872-1949), and Indian High Court and Tribunal decisions since 1779.

[11]Manupatra is a comprehensive legal and business database in India, offering advanced search options like Manu search, Legal Search, Citation Search, and Act search, which can be refined by subject or chronology.The platform provides international content, along with tools for better search results, such as case maps, authority checks, timelines, judge analytics, and citation analysis. It also features cross- references from over 300 journals and enables users to navigate directly to relevant paragraphs, enhancing the overall research experience.

GLOBAL TRENDS

The United States has modernized its judiciary with integrated e-court systems like [12]PACER (Public Access to Court Electronic Records) and e-Filing, enabling centralized access to federal court documents and reducing paper reliance. These systems process over a million filings annually, improving case management, efficiency, and transparency. Online Dispute Resolution (ODR) platforms like [13]Modria and [14]eBay's Resolution Center provide quick conflict resolution, while Artificial Intelligence (AI) tools like DoNotPay, can be used to appeal parking tickets, demand refunds for delayed flights, and even landlord-tenant disputes.

[10] Ritu Nagpal., Use of connectors, operators and symbols in selected electronic legal databases: A comparative study. Library Philosophy and Practice,4247, ISSN 15220222, Pg 16,17, Sep 2020, https://pure.jgu.edu.in/id/eprint/416/1/LPP1%202020.pdf

[11] Ritu Nagpal., Use of connectors, operators and symbols in selected electronic legal databases: A comparative study. Library Philosophy and Practice,4247, ISSN 15220222, Pg 15 Sep 2020, https://pure.jgu.edu.in/id/eprint/416/1/LPP1%202020.pdf

[12] Pacer US Courts, https://pacer.uscourts.gov/?utm_source= (last visited 23 Dec 2024)

[13] Modria a total tyler solution, tylertech.com/Portals/0/OpenContent/Files/4080/Modria-Brochure.pdf?utm_source(last visited 24 Dec 2024)

[14] Online Dispute Resolution: Companies Implementing ODR, Companies Implementing ODR - Online Dispute Resolution - Library Guides at University of Missouri Libraries, https://libraryguides.missouri.edu/c.php?g=557240&p=3832247, (last visited 25 Dec 2024)

[15]ROSS Intelligence uses natural language processing for legal research. Predictive analytics support resource allocation and legal strategies. However, ethical concerns remain, as seen with [16]COMPAS (Correctional Offender Management Profiling for Alternative Sanctions), criticised for racial bias in sentencing decisions. While AI enhances efficiency, challenges in ensuring fairness and contextualizing human interactions highlight its limitations. These innovations make justice more accessible, transparent, and effective, but require continuous ethical oversight. In Australia, the e-Courts initiative seamlessly combines digital filing, virtual hearings, and real-time case tracking.

This change has been particularly successful for distant and under-resourced areas, assuring better access to justice. In the same way, Canada's Ontario Court of Justice e-filing system handles many online applications every year, primarily dealing with small claims and family court actions.

Inclusive designs that respect linguistic and cultural diversity, supported by robust regulatory frameworks, strict cybersecurity measures, and regular audits, will ensure data security and system reliability. By incorporating these measures, including feedback systems for continuous improvement, India can significantly enhance the adoption and outreach of digital legal services, ensuring a more accessible, efficient, and inclusive justice system for all.

[17]China has implemented AI-powered courts and virtual platforms that effectively resolve disputes in various corners of the world.[18] Tools such as the Smart Court carefully analyse case data, predict outcomes, and give legal recommendations, streamlining workflows.[19] Estonia has become a global leader in digital governance, using blockchain technology within

[15] Stergios Anastasiadis, how is Natural Language Search Changing the Face of Legal Research? ,April 2019, https://blog.rossintelligence.com/post/how-natural-language-search-changing-face-of-legal-research?utm_source=

[16] Julia Angwin, Jeff Larson, Surya Mattu and Lauren Kirchner, ProPublica, There's software used across the country to predict future criminals. And it's biased against blacks, May 2016, https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing?utm_source=

[17] *The country's first AI virtual judge to help the application of artificial intelligence in the judicial field, Shanghai Open, https://doc.shanghaiopen.org.cn/case/16/en_2.html*

[18] *Ben Wodecki, AI Helps Judges Decide Court Cases in China, AI Business, July 18 2022, https://aibusiness.com/verticals/ai-helps-judges-decide-court-cases-in-china?utm*

[19] *Mehis Sihvart, Blockchain – Security control for government registers, e-Estonia, Aug 10, 2017, https://e-estonia.com/blockchain-security-control-for-government-registers/*

its e-Court system to ensure that document management is secure and to maintain data integrity.

[20]Brazil uses AI-based systems like VITAE to rank cases and deal with routine legal matters, which helps reduce backlogs and enables courts to focus on more complex cases.[21] In Singapore, the Community Justice and Tribunals System (CJTS) has online resolution mechanisms for small claims and employment issues, using AI tools to facilitate case management and document review.

CHALLENGES & RECOMMENDATIONS

The e-Courts Project, faces issues such as inadequate digital infrastructure in rural areas, a lack of digital literacy among court staff and litigants, and concerns over data security regarding sensitive case information. These challenges can be addressed by upgrading infrastructure, implementing targeted training programs for court personnel, and establishing robust data protection measures.

Additionally, systems like the Case Information system require real-time data input, improved accessibility, and better integration across courts to boost their effectiveness. These lobal initiative underscore the transformative power of technology in reviving judicial systems and enhancing access to justice.

The National Judicial Data Grid (NJDG) offers valuable insights into court performance but suffers from outdated information and limited public awareness. Regular updates, targeted awareness campaigns, and the establishment of accurate operational procedures are essential to maximize its potential. Similarly, E-Sewa Kendras, designed to offer legal services in remote areas, face issues like weak outreach, insufficiently trained staff, and slow service delivery. These can be improved by expanding their reach, streamlining workflows, and providing comprehensive training to employees. Collaborating with NGOs and legal tech firms can further enhance their effectiveness by increasing community engagement and

[20] *Ami Guthrie, Brazil's Overwhelmed Judiciary, Desperate for Help, Turns to Artificial Intelligence, LAW.COM International, January 16, 2024 at 11:04 AM,*
[21] *Community Justice and Tribunal Courts, SG Courts, https://www.judiciary.gov.sg/services/cjts, (last visited 24 Dec 2024)*

awareness, for example, initiatives like, [22]Humara Kanoon.

Online Dispute Resolution (ODR) platforms hold immense potential for resolving disputes efficiently. However, issues like insufficient regulation, privacy concerns, and resistance from traditional legal professionals pose challenges. Awareness campaigns, robust security measures, and clear regulatory frameworks can address these concerns. The adoption of AI in legal processes, while promising, faces scepticism due to high costs and resistance within the legal community. Gradual implementation, interactive training modules, and gamified learning experiences can help build confidence and acceptance.

Other essential tools, such as legal aid platforms and online research tools, also face challenges like high subscription fees, limited regional language support, and outdated content. Reducing costs, providing frequent updates, and expanding regional language options can make these tools more accessible and inclusive. Dedicated feedback mechanisms involving user assessments and continuous improvement can bridge gaps effectively.

Additionally, infographics showcasing the efficiency and impact of such platforms can enhance user trust and engagement. Platforms like DigiLocker, which facilitate the secure storage of legal documents, face privacy issues and a lack of integration with court systems. Strengthening encryption standards and ensuring seamless integration with court systems can resolve these concerns effectively.

To maximise the potential of legal technology, all stakeholders must collaborate. The judiciary, government, technology firms, and legal professionals must create a cohesive and inclusive ecosystem. National campaigns to promote digital literacy, interactive and gamified training modules for communities, and intuitive region-specific tools can bridge the digital divide.

Inclusive designs that respect linguistic and cultural diversity, supported by robust regulatory frameworks, strict cybersecurity measures, and regular audits, will ensure data security and system reliability.

By incorporating these measures, including feedback systems for continuous improvement,

[22] Avani Bansal , Kanoon (Our Law) – A Tech Solution To Create Legal Awareness in India, Oxfords Human Rights Hub, Nov 10, 2016, https://ohrh.law.ox.ac.uk/hamara-kanoon-our-law-a-tech-solution-to-create-legal- awareness-in-india/

India can significantly enhance the adoption and outreach of digital legal services, ensuring a more accessible, efficient, and inclusive justice system for all.

CASE LAWS

[23]Swapnil Tripathi v. Supreme Court of India

A nine-judge panel rendered important rulings on the ideas of open justice, public information access, and judicial process transparency in this 2018 case. Additionally, the primary query that was answered was "should court proceedings be streamed live or not?" The Supreme Court ruled that it is clearly in the public interest to webcast court sessions live. The importance of live-streaming as an extension of the open justice and open courts principle should be emphasized once more. Nonetheless, there should be well-thought-out rules governing the live-streaming procedure.

[24]Pyrrho Investments Ltd v MWB Property Ltd

A landmark case in the United Kingdom that addressed the use of predictive coding—an AI-based tool—for document review in legal discovery. Faced with a vast volume of electronic documents to analyse, the High Court approved the adoption of predictive coding, citing its efficiency, accuracy, and cost-effectiveness compared to traditional manual review methods. This decision marked the first judicial endorsement of AI tools in the UK legal system, setting a precedent for their use in document- heavy litigation. By embracing predictive coding, the case highlighted the transformative potential of AI in reducing time and resources while maintaining the integrity of legal processes.

CONCLUSION

The future may be an upheaval of justice, with AI case management, the blockchain for records, and online courts where they may become accessible. International cooperation could streamline the process and innovate.

Technology has to open the digital divide through the internet, intuitive interfaces, and open systems. Further, coming from hybrid courts, biometric authentication, and cutting-edge

[23] Swapnil Tripathi v. Supreme Court of India AIR 2018 Supreme Court 4806
[24] Pyrrho Investments Ltd v MWB Property Ltd [2016] EWHC 256 (Ch)

dispute resolution tools, they have to be flexible and scalable. While technology is transforming efficiency, deferring queues, and greater accessibility, issues concerning digital inclusivity and trust have yet to be sorted. Ethical implementation, collective collaboration, and user-centred designs may bring justice to the masses in fair, equitable, and accessible ways**.**

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